

Release notes for ENDF/B Development photoat-039_Y_000
evaluation

ENDF
B-VII.dev

October 13, 2016

- checkr Warnings:

1. A previous error halted parsing of the current section
MAT=3900, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3900, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO      185
```

- checkr Errors:

1. A variable is outside the allowed ENDF range
MAT=3900, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3900, MF= 1, MT=451
MOD =      3 OUT OF RANGE      0 -      1      RECORD NUMBER      158
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=501
SECTION 23/501 NOT IN DIRECTORY      RECORD NUMBER      187
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=502
SECTION 23/502 NOT IN DIRECTORY      RECORD NUMBER      948
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=504
SECTION 23/504 NOT IN DIRECTORY      RECORD NUMBER      1250
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=515
SECTION 23/515 NOT IN DIRECTORY      RECORD NUMBER      1291
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=516
SECTION 23/516 NOT IN DIRECTORY      RECORD NUMBER      1325
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=517 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=517
SECTION 23/517 NOT IN DIRECTORY RECORD NUMBER 1377

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=522 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=522
SECTION 23/522 NOT IN DIRECTORY RECORD NUMBER 1417

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=534 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=534
SECTION 23/534 NOT IN DIRECTORY RECORD NUMBER 1810

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=535 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=535
SECTION 23/535 NOT IN DIRECTORY RECORD NUMBER 1833

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=536 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=536
SECTION 23/536 NOT IN DIRECTORY RECORD NUMBER 1860

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=537 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=537
SECTION 23/537 NOT IN DIRECTORY RECORD NUMBER 1887

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=538 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=538
SECTION 23/538 NOT IN DIRECTORY RECORD NUMBER 1916

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=539 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=539
SECTION 23/539 NOT IN DIRECTORY RECORD NUMBER 1946

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=540 (0): Directory (b)

- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=540 | RECORD NUMBER | 1982 |
| SECTION 23/540 NOT IN DIRECTORY | | |
16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=541 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=541 | RECORD NUMBER | 2020 |
| SECTION 23/541 NOT IN DIRECTORY | | |
17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=542 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=542 | RECORD NUMBER | 2075 |
| SECTION 23/542 NOT IN DIRECTORY | | |
18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=543 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=543 | RECORD NUMBER | 2130 |
| SECTION 23/543 NOT IN DIRECTORY | | |
19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=544 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=544 | RECORD NUMBER | 2167 |
| SECTION 23/544 NOT IN DIRECTORY | | |
20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=545 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=545 | RECORD NUMBER | 2214 |
| SECTION 23/545 NOT IN DIRECTORY | | |
21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=546 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=546 | RECORD NUMBER | 2261 |
| SECTION 23/546 NOT IN DIRECTORY | | |
22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=547 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3900, MF=23, MT=547 | RECORD NUMBER | 2333 |
| SECTION 23/547 NOT IN DIRECTORY | | |
23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=550 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=23, MT=550
SECTION 23/550 NOT IN DIRECTORY

RECORD NUMBER 2405

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=502 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=27, MT=502
SECTION 27/502 NOT IN DIRECTORY

RECORD NUMBER 2467

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=504 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=27, MT=504
SECTION 27/504 NOT IN DIRECTORY

RECORD NUMBER 2519

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=505 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=27, MT=505
SECTION 27/505 NOT IN DIRECTORY

RECORD NUMBER 2573

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=506 (0): Directory (b)

ERROR(S) FOUND IN MAT=3900, MF=27, MT=506
SECTION 27/506 NOT IN DIRECTORY

RECORD NUMBER 2729

• fudge-4.0 Warnings:

1. generic warning message
reaction label 0: Y + gamma [coherent] / Product: gamma (Error # 0): Warning

WARNING: coherentScattering is not a valid distribution component for 2-body reaction

2. FIXME: Generic fudge unimplemented message
reaction label 0: Y + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for pointwise type data

3. generic warning message
reaction label 1: Y + gamma [incoherent] / Product: gamma (Error # 0): Warning

WARNING: incoherentScattering is not a valid distribution component for 2-body reaction

4. FIXME: Generic fudge unimplemented message
reaction label 1: Y + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for piecewise type data

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 19: total (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 74.54%

• fudge-4.0 Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Y + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

2. 2-body reaction not in center-of-mass frame
reaction label 0: Y + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!

3. Calculated and tabulated thresholds don't agree
reaction label 1: Y + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

4. 2-body reaction not in center-of-mass frame
reaction label 1: Y + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!

5. Energy range of data set does not match cross section range
reaction label 1: Y + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (0.0 -> 10000000000.0) vs (1.0 -> 1e+11)

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Y [electron field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Y [nuclear field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!

8. Calculated and tabulated thresholds don't agree
reaction label 4: $e^- + Y1s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.7e4 eV!
9. Calculated and tabulated thresholds don't agree
reaction label 5: $e^- + Y2s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2354.9 eV!
10. Calculated and tabulated thresholds don't agree
reaction label 6: $e^- + Y2p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2159.7 eV!
11. Calculated and tabulated thresholds don't agree
reaction label 7: $e^- + Y2p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2081.5 eV!
12. Calculated and tabulated thresholds don't agree
reaction label 8: $e^- + Y3s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 385.79 eV!
13. Calculated and tabulated thresholds don't agree
reaction label 9: $e^- + Y3p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 312.26 eV!
14. Calculated and tabulated thresholds don't agree
reaction label 10: $e^- + Y3p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 299.92 eV!
15. Calculated and tabulated thresholds don't agree
reaction label 11: $e^- + Y3d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 168.74 eV!
16. Calculated and tabulated thresholds don't agree
reaction label 12: $e^- + Y3d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 166.51 eV!
17. Calculated and tabulated thresholds don't agree
reaction label 13: $e^- + Y4s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53.35 eV!
18. Calculated and tabulated thresholds don't agree
reaction label 14: $e^- + Y4p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.71 eV!

19. Calculated and tabulated thresholds don't agree
reaction label 15: $e^- + Y_4p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.14 eV!
20. Calculated and tabulated thresholds don't agree
reaction label 16: $e^- + Y_4d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.24 eV!
21. Calculated and tabulated thresholds don't agree
reaction label 17: $e^- + Y_4d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.13 eV!
22. Calculated and tabulated thresholds don't agree
reaction label 18: $e^- + Y_5s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.68 eV!
23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.13 eV!

- **xsectplotter** Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection
```

```
/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: RuntimeWarning: ... [3 more lines]
```